



## Standard Guide for Readily Observable Mold and Conditions Conducive to Mold in Commercial Buildings: Baseline Survey Process<sup>1</sup>

This standard is issued under the fixed designation E2418; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 *Purpose*—The purpose of this *guide*<sup>2</sup> is to define good commercial and customary practice in the United States of America for conducting a baseline survey for readily observable mold and conditions conducive to mold in a *commercial building* related to a *commercial real estate transaction* by conducting: a *walk-through survey*, document reviews, and interviews as outlined within this *guide*. This *guide* is intended to identify *observable mold* and *physical deficiencies conducive to mold* as a result of moisture and water infiltration through the *commercial building's* envelope or substructure, or generated within the building as a result of processes or mechanical systems, excluding *de minimis observable mold* and *physical deficiencies conducive to mold*. This *guide* is to allow a *user* to assess the potential need for further assessment or other actions that may be appropriate that are beyond the scope of this *guide*. For purposes of this *guide*, the acronym “BSP” or “Baseline Survey Process” is used interchangeably with this *guide's* full title.

1.2 *Purpose Limitations*—While a *BSP* may be used to survey for readily identifiable *mold* and *physical deficiencies conducive to mold*, the *BSP* is not designed to serve as *comprehensive survey* for the presence of *observable mold* and *physical deficiencies conducive to mold* in all or most areas in a commercial building. It is not intended to reduce the risk of the presence of *observable mold* and *physical deficiencies conducive to mold* nor is it to eliminate the risk that *observable mold* and *physical deficiencies conducive to mold* may pose to the building or its occupants.

1.3 *Considerations Beyond This Scope*—The use of this *guide* is strictly limited to the scope set forth in this section. Section 13 of this *guide* identifies, for informational purposes, certain physical conditions (not an all-inclusive list) that may exist at a property and certain activities or procedures (not an all-inclusive list) that are beyond the scope of this *guide* but may warrant consideration by parties to a *commercial real*

*estate transaction*. The need to investigate any such conditions in the *consultant's* scope of services should be evaluated based upon, among other factors, the nature of the property and the reason for conducting the *BSP*. The scope of such further investigation or testing services should be agreed upon between the *user* and the *consultant* as additional services, which are beyond the scope of this *guide*, prior to initiation of the *BSP* process. The responsibility to initiate work beyond the scope of this *guide* lies with the *user*.

1.3.1 Sampling for mold growth is a non-scope consideration under this *guide*. As noted by EPA 402-K-01-001, sampling cannot be used to assess whether a commercial building complies with federal standards, since no EPA or other federal standards or Threshold Limit Values (TLVs) have been established for mold spores. And, sampling would only produce results reflecting a *specific moment in time* in the best case and could produce inaccurate or misleading results in the worst case.

1.4 *Organization of the Guide*—This *guide* has 13 sections and three appendices. Section 1 defines the Scope. Section 2 is Referenced Documents. Section 3 is Terminology. Section 4 defines the Significance and Use of this *guide*. Section 5 describes User Responsibilities. Sections 6 through 11 provide guidelines for the main body of the *report*, including the scope of the *Walk-through Survey* and preparation of the *report*. Section 12 and Appendix X1 identifying Out of Scope Considerations. Section 13 lists keywords for Internet reference. Appendix X1 provides the *user* with additional *BSP* scope considerations, whereby a *user* may increase this *guide's* baseline scope of due diligence to be exercised by the *consultant*. Appendix X2 provides the *user* with a suggested Interview Checklist, and Appendix X3 provides the *user* with a suggested Field Checklist.

### 2. Referenced Documents

#### 2.1 ASTM Standards:<sup>3</sup>

E1527 Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee E50 on Environmental Assessment, Risk Management, and Corrective Action and is the direct responsibility of Subcommittee E50.02 on Real Estate Assessment and Management.

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<sup>2</sup> Whenever terms defined in Section 3 are used in this guide, they are in *italics*.

<sup>3</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

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### 2.2 Other Document:

EPA 402-K-01-001 U.S. Environmental Protection Agency, Mold Remediation in Schools and Commercial Buildings, March 2001<sup>4</sup>

## 3. Terminology

**3.1 Scope**—This section provides definitions, descriptions of terms, and a list of acronyms for many of the words used in this *guide*. The terms are an integral part of the *guide* and are critical to an understanding of the *guide* and its use.

### 3.2 Definitions:

**3.2.1 architect**—designation reserved by law for a person professionally qualified, examined, and registered by the appropriate governmental board having jurisdiction, to provide architectural services including, but not limited to, analysis of project requirements and conditions, development of project design, production of construction drawings and specifications, and administration of construction contracts.

**3.2.2 building system**—interacting or independent *components* or assemblies, which form single integrated units, that comprise a building and its site work, including, but not limited to, structural frame, roofing, exterior walls, plumbing, HVAC, electrical, and so forth.

**3.2.3 certified industrial hygienist**—an individual who has met the requirements and is in good standing with the American Board of Industrial Hygiene and is qualified to perform services, including, but not limited to, the science and practice devoted to the anticipation, recognition, evaluation, and control of those environmental factors and stresses that may cause sickness, impaired health and well-being, or significant discomfort.

**3.2.4 commercial real estate**—improved real property except a dwelling or property with four or less dwelling units exclusively used for residential use. This term includes, but is not limited to, improved real property used for: industrial, retail, office, hospitality, agriculture, medical, educational, or other commercial purposes; and residential purposes provided that there are more than four residential dwelling units; and property with four or less dwelling units for residential use when it has a commercial function, as in the operation of such dwellings for profit.

**3.2.5 commercial real estate transaction**—for purposes of this *guide*, this term means a transfer of title to (for example, sales/acquisition) or possession (for example, lease) of improved real property, or the receipt of a security interest, mortgage, or the placing of a lien on improved commercial real estate (for example, lending) excepting individual dwellings.

**3.2.6 component**—a portion of a *building system*, piece of equipment, or building element.

**3.2.7 consultant**—the entity or individual that prepares the *BSP* and that is responsible for the observance of and reporting on the presence of *observable mold and physical deficiencies conducive to mold* within a *commercial building* in accordance with this *guide* as defined in 7.1.

**3.2.8 engineer**—designation reserved by law for a person professionally qualified, examined, and licensed by the appropriate governmental board having jurisdiction, to provide engineering services.

**3.2.9 environmental site assessment**—as defined in Practice E1527, the process by which a person or entity seeks to determine if a particular parcel of real property (including improvements) is subject to recognized environmental conditions.

**3.2.10 field observer**—the individual who conducts the *walk-through survey*. This *guide* recognizes that for the majority of *commercial buildings* subject to a *BSP*, the *field observer* assigned by the *consultant* to conduct the *walk-through survey* will most likely be a single individual having a general, well rounded knowledge of pertinent *building systems*, *building components*, visible mold characteristics, and conditions conducive to mold growth.

**3.2.11 guide**—a series of options and instructions that do not recommend a specific course of action. See also *standard*.

**3.2.12 interviews**—discussions with those knowledgeable about the building, its construction, and history or who may have information related to the *building systems* or *components*.

**3.2.13 material**—having significant importance or great consequence to the *subject property's* intended use or physical condition.

**3.2.14 occupants**—those tenants, subtenants, or other persons or entities using the property or a portion of the property.

**3.2.15 owner**—generally the fee owner of record of the property.

**3.2.16 practically reviewable**—information that is practically reviewable means that the information is provided in a manner and in a form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data.

**3.2.17 practice**—a definitive procedure for performing one or more specific operations or functions that does not produce a test result.

**3.2.18 property**—the real property that is the subject of the *BSP* described in this *guide*. Real property includes buildings and other fixtures and improvements located on the property and affixed to the land.

**3.2.19 property condition assessment (PCA)**—as defined in Guide E2018, the process by which a person or entity observes a property, interviews sources, and reviews available documentation for the purpose of developing an opinion and preparing a property condition report of the improvements.

**3.2.20 property condition report (PCR)**—the work product resulting from completing a PCA in accordance with Guide E2018.

**3.2.21 publicly available**—the source of the information allows access to the information to anyone upon request.

**3.2.22 report**—the written record prepared by the *consultant* and constituting part of a *BSP*, as required by this *guide*.

**3.2.23 standard**—as used in ASTM, a document that has been developed and established within the consensus principles of the ASTM and that meets the approval requirements of

<sup>4</sup> Available from United States Environmental Protection Association (EPA), Ariel Rios Bldg., 1200 Pennsylvania Ave., NW, Washington, DC 20460.

ASTM procedures and regulations. This term herein is used interchangeably with *guide* (“this guide”).

3.2.24 *sump*—a pit, cistern, cesspool, or similar receptacle where liquids drain, collect, or are stored.

3.2.25 *user*—the person, persons, or entity retaining the *consultant* to conduct the *BSP* in accordance with this *guide*. A *user* may include, but is not limited to, a purchaser, owner, existing or potential mortgagee, lender, or property manager of the building.

3.2.26 *water or moisture*—water as liquid, vapor, or solid (for example, ice, frost, or snow) in any combination or in transition.

### 3.3 Definitions of Terms Specific to This Standard:

3.3.1 *actual knowledge*—the knowledge actually possessed by an individual who is a real person, rather than an entity. *Actual knowledge* is to be distinguished from constructive knowledge, which is knowledge imputed to an individual or entity.

3.3.2 *baseline*—the minimum level of observations, inquiry, research, document review, and preparation of opinions for conducting a *BSP* as described in this *guide*.

3.3.3 *building department records*—those records of the local government agency in which the *property* is located indicating permission of the local government to construct, alter, or demolish improvements on the *property*. Often *building department records* are located in the building department of a municipality or county.

3.3.4 *BSP*—the process described in this *guide*.

3.3.5 *BSP reviewer*—the individual who reviews the *BSP* prior to delivery to the *user*.

3.3.6 *commercial building*—structure except a dwelling or structure with four or less dwelling units exclusively for residential use. This term includes, but is not limited to, structures used for industrial, retail, office, hospitality, agriculture, other commercial, medical, or educational purposes; property used for residential purposes that has more than four residential dwelling units; and structures with four or less dwelling units for residential use when it has a commercial function, as in the operation of such dwellings for profit.

3.3.7 *comprehensive*—complete, thorough, entire, methodical, and detailed.

3.3.8 *dangerous condition*—conditions that may pose a threat or possible injury to the *consultant* and which may require the use of special protective clothing, safety equipment, access equipment, or any other precautionary measures.

3.3.9 *deferred maintenance*—physical deficiencies that cannot be remedied with routine maintenance, normal operating maintenance, and so forth, excluding *de minimis* conditions that generally do not present a *material physical deficiency* to the *subject property*.

3.3.10 *dismantling*—to take apart or remove any *component*, device, or piece of equipment that is bolted, screwed, secured, or fastened by other means.

3.3.11 *due diligence*—the process of inquiring into the characteristics of a parcel of *commercial real estate*, usually in connection with a *commercial real estate transaction*. The degree, scope, and kind of due diligence vary for different properties and differing purposes of the user.

3.3.12 *dwelling unit*—structure or portion thereof used for residential habitation.

3.3.13 *easily visible*—describes items, *components*, and systems that are conspicuous, patent, and which may be observed visually during the *walk-through* without intrusion, removal of materials, exploratory probing, use of special protective clothing, or use of special equipment.

3.3.14 *extraordinary physical search*—surveying of confined locations that are difficult to either physically access or observe within a *commercial building*. These locations include, but are not limited to, within wall or false ceiling cavities, mechanical or electrical system chases, wall or duct insulation, on the backing of carpeting, within crawl spaces, or in other inconvenient locations.

3.3.15 *exterior*—that portion of the building not defined herein as *interior*.

3.3.16 *fungi*—(singular fungus) neither animals or plants and are classified in a kingdom of their own. *Fungi* include *molds*, yeasts, mushrooms, and puffballs. In this *guide*, the terms *fungi* and *molds* are used interchangeably.

3.3.17 *health department records*—those records of the local government agency, where the *property* is located, with the responsibility to maintain health-related files regarding the *property*. Often *health department records* are located in the Health Department of a municipality or county.

3.3.18 *interior*—the area(s) of any building where people have readily available access and are included in the conditioned space of the structure. Does not include: elevator shafts, basements, garages, cavities, roof top mechanical rooms, and so forth.

3.3.19 *interviews*—those portions of this *guide* that are contained in Section 6 thereof and address questions to be asked of *owners*, *key site managers*, and/or *occupants* of the *property*.

3.3.20 *key site manager*—the person identified by the *owner* of a *commercial real estate* as having good knowledge of the history, uses, management, and physical characteristics of the *commercial building*.

3.3.21 *limited*—not *comprehensive* in scope or purpose.

3.3.22 *local government agencies*—those agencies of municipal or county government having jurisdiction over the *property*. Municipal and county government agencies include, but are not limited to, cities, towns, parishes, townships, and similar entities.

3.3.23 *mold*—visible fungal growth that may belong to one of three natural classes of *fungi*. The term has no taxonomic significance and is used only in a very general sense of visible fungal growth on organic matter. Fungal *colonies* most commonly found growing in the indoor environment are often called *molds*. All *molds* are *fungi*, but not all *fungi* are considered *molds*. *Molds* produce *conidia* or *spores* for the purpose of reproduction that are poorly visible or not visible at all to the naked eye, and that in many species are specialized to become airborne. *Fungi conidia* or *spores* are ubiquitous, and *mold* growth can occur virtually anywhere whenever environmental conditions (generally controlled by the presence of moisture) are favorable.



3.3.23.1 *Discussion*—Note that the term *mold* as used in this guide includes suspected *fungi* and other *visual suspect mold growth*. As no testing is performed under this guide, the *visual suspect mold growth* that may be *observed* pursuant to this guide may or may not be *mold* or *fungi*. In general, for the purpose of this guide, the terms *fungi* and *mold* can be used interchangeably.

3.3.24 *moldy odor*—see *musty odor*.

3.3.25 *musty odor*—generic olfactory recognition of moldy or *musty odors* useful for perceiving whether there may be *mold*, *fungi* or other microbial growth in a building.

3.3.26 *occupants*—those tenants, subtenants, or other persons or entities each of which uses a portion of the leasable area of the *property*.

3.3.27 *observe*—to conduct an *observation* pursuant to this guide.

3.3.28 *observation*—the survey of items, systems, conditions, or *components* that are *readily accessible* and *easily observable* during a walk-through survey of the *subject property*.

3.3.29 *obvious*—that which is plain or evident; a condition or fact that could not reasonably be ignored or overlooked by a *field observer* while *visually observing* the *property*.

3.3.30 *physical deficiency conducive to mold*—conspicuous or patent defects or significant *deferred maintenance* of a *commercial building's building systems* and *building components* as *observed* during the *field observer's walk-through survey*, excluding *de minimis* conditions that generally do not present a *physical deficiency conducive to mold*.

3.3.31 *readily accessible*—describes areas of the *building* that are promptly made available for *observation* to the *field observer* at the time of the *walk-through* of the *building* and does not require the removal of materials, personal property, equipment, or similar items and that are safely accessible in the opinion of the *field observer*. Use of extraordinary means and methods to access or observe *suspect materials* render such materials inaccessible (for example, fall protection, mechanical lifts, confined space entry, lockout/tagout, energized systems, and so forth) is excluded. An area is said to be *readily accessible* if it can be observed, and identified in a safe manner without causing objectionable damage to such material or other building materials. The necessity to use ladders or stools to reach ceiling materials, the need to move lay-in ceiling tiles to view *components* above such lay-in ceilings, the need to remove goods in a retail establishment to look below shelves, or the need to look beneath carpet (at corners or existing holes only) does not render a material inaccessible. The presence of fixtures, furnishings, equipment, or similar items within the area to be assessed or restricted access (that is, locked doors or denied access or authorization to enter) may render materials not *readily accessible*. For example, materials located underground within crawl spaces or below-grade confined areas such as vaults or tunnels, below concrete slabs, or within walls without access panels, shafts, or chases that are not *readily accessible*.

3.3.32 *readily observable*—describes a physical condition that is *obvious*, *patent*, and *readily accessible*.

3.3.33 *reasonably ascertainable*—information that is (1) *publicly available*, (2) obtainable from its source within reasonable time and cost constraints, and (3) *practically reviewable*.

3.3.34 *reasonably available information*—information that is provided and received from the *user* or the party designated by the *user* prior to the *walk-through*.

3.3.35 *recognized environmental condition*—as defined in Practice E1527, the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

3.3.36 *records review*—that part that is contained in Section 7 of this guide addresses, which records shall or may be reviewed.

3.3.37 *representative observations*—*observations* of a reasonable number of samples of repetitive *systems*, *components*, areas, and so forth, which are conducted by the *field observer* during the *walk-through survey*. The concept of *representative observations* extends to all conditions, areas, equipment, *components*, systems, buildings, and so forth to the extent that they are similar and representative of one another.

3.3.38 *subject building*—referring to the primary building or buildings on the *subject property*, and which are within the scope of the *BSP*.

3.3.39 *subject property*—the *commercial real estate* consisting of the site and *commercial building* that are the subject of the *BSP* described by this guide.

3.3.40 *site visit*—the visit to the *subject property* during which *observations* are made constituting the *walk-through survey* section of this guide.

3.3.41 *survey*—*observations* made by the *field observer* during a *walk-through survey* to obtain information concerning the *subject property's readily accessible* and *easily visible components* or *systems*.

3.3.42 *suspect fungal growth*—visible growth with characteristics of *mold*. Suspect fungal growth cannot be confirmed by the *field observer's* professional judgment without the benefit of sampling. For purposes of this guide, this term is used interchangeably with “*mold*” herein.

3.3.43 *timely access*—entry provided to the *field observer* at the time of the *walk-through*.

3.3.44 *visually and/or physically observed*—during a *site visit* pursuant to this guide, this term means *observations* made by vision, or other sensory perception, while performing a *walk-through*.

3.3.45 *walk-through*—a *walk-through* of the *commercial building* to make *observations* in order to complete the *BSP Checklist* for the potential for *observable mold* and *physical deficiencies conducive to mold*. It is the intent of this guide that this *walk-through* should not be considered exhaustive or *comprehensive* in nature and is subject to the limitations of this guide.

### 3.4 Acronyms:

3.4.1 *ASTM*—American Society for Testing and Materials International

- 3.4.2 *EPA*—Environmental Protection Agency
- 3.4.3 *ESA*—environmental site assessment
- 3.4.4 *FIRM*—flood insurance rate map
- 3.4.5 *HVAC*—heating, ventilation, and air conditioning
- 3.4.6 *IAQ*—indoor air quality
- 3.4.7 *OSHA*—Occupational Safety and Health Act or Occupational Safety and Health Agency
- 3.4.8 *PCA*—property condition assessment
- 3.4.9 *TLV*—threshold limit value

#### 4. Significance and Use

4.1 *Use*—This *guide* is intended for use on a voluntary basis by parties who wish to obtain a limited survey of *commercial real estate* to assess for *observable mold* and *physical deficiencies conducive to mold* as part of a *commercial real estate transaction*. This *guide* is intended to constitute a *baseline inquiry* using representative observations for the purposes of conducting *due diligence* regarding the actual and potential presence of *observable mold* and *physical deficiencies conducive to mold* in connection with a property. Inquiries that are more and less comprehensive than this *guide* (including, in some instances, no inquiry) may be appropriate in some circumstances in the opinion of the *user* (for example, when the presence of mold is known to the *user*). Furthermore, no implication is intended that a person must use this *guide* in order to be deemed to have conducted *appropriate inquiry* in a commercially prudent or reasonable manner in any particular transaction. Nevertheless, this *guide* is intended to reflect a commercially prudent and reasonable inquiry. However, a *BSP* is not intended to serve as a *comprehensive survey* for the presence of *observable mold* and *physical deficiencies conducive to mold* in all or most of the building systems throughout a *commercial building*. While a *BSP* is intended to reduce the risk of the presence of *observable mold* and *physical deficiencies conducive to mold* within a *commercial building*, it will not, nor is it intended, to eliminate that risk, or remediate *observable mold* and *physical deficiencies conducive to mold*.

##### 4.2 Clarification of Use:

4.2.1 *Specific Point in Time*—Because conditions conducive to mold in a building can vary greatly over time due to changes in weather, interior air handling and conditioning, occupancy, and so forth, a *user* should only rely on the results presented in the *report* for the point in time at which the *BSP* was conducted.

4.2.2 *Site-Specific*—This *guide* is site-specific in that it relates to assessment of *observable mold* and *physical deficiencies conducive to mold* within a specific *commercial building*. Consequently, this *guide* does not address many additional issues raised in *commercial real estate transactions* such as purchases of business entities, or interests therein, or of their assets, that may well involve liabilities pertaining to properties previously owned or operated or other on-site or off-site liabilities.

4.2.3 *Residential Tenants/Purchasers and Others*—No implication is intended that it is currently customary practice for residential tenants of multifamily residential buildings, tenants of single-family homes or other residential real estate, or purchasers of dwellings for one's own residential use, to conduct a *BSP* in connection with these transactions. Thus,

these transactions are not included in the term *commercial real estate transaction*, and it is not intended to imply that such persons are obligated to conduct a *BSP* in connection with these transactions for purposes of *appropriate inquiry* or for any other purpose. In addition, no implication is intended that it is currently customary practice for a *BSP* to be conducted in other unenumerated instances (including, but not limited to, many commercial leasing transactions, many acquisitions of easements, and many loan transactions in which the lender has multiple remedies). On the other hand, anyone who elects to do a *BSP* of any *property* or portion of a *property* may, in such person's judgement, use this *guide*.

4.3 *Who May Conduct*—The *walk-through survey* portion of a *BSP* should be conducted by a *field observer* qualified as outlined in Section 7.

4.4 *Additional Services*—As set forth in 11.13, additional services may be contracted for between the *user* and the *consultant*. Such additional services may include an *environmental site assessment*, *property condition assessment* and other issues not included within the scope of this *guide*, examples of which area identified in Section 12 under Out of Scope Considerations.

4.5 *Principles*—The following principles are an integral part of this *guide* and are intended to be referred to in resolving any ambiguity or exercising such discretion as is accorded the *user* or *consultant* in conducting a *BSP* or in judging whether a *user* or *consultant* has conducted *appropriate inquiry* or has otherwise conducted an adequate *BSP*.

4.5.1 *Uncertainty Not Eliminated*—No limited survey of *observable mold* and *physical deficiencies conducive to mold* can wholly eliminate uncertainty regarding the potential for *observable mold* and *physical deficiencies conducive to mold* to be present at a *property*. Performance of a *BSP* pursuant to this *guide* is intended to reduce, but not eliminate, uncertainty regarding the current *observable mold* and *physical deficiencies conducive to mold* at a *property* nor to eliminate the potential for *observable mold* and *physical deficiencies conducive to mold* to be or to become present. The *guide* recognizes a *consultant's* findings may be determined under time constraints, formed without the aid of testing, exploratory probing, the removal of materials, or design.

4.5.2 *Not Exhaustive*—*Appropriate inquiry* does not mean an exhaustive assessment of a *property*. There is a point at which the cost of information obtained or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. One of the purposes of this *guide* is to identify a balance between the competing goals of limiting the costs and time demands inherent in performing a *BSP* and the reduction of uncertainty about unknown conditions resulting from additional information.

4.5.3 *Activity Exclusions*—Certain activities are generally excluded from or otherwise represent limitations to the scope of a *BSP* prepared in accordance with this *guide*. These should not be construed as all-inclusive or implying that any exclusion not specifically identified is a *BSP* requirement under this *guide*. Specifically excluded activities include:



4.5.3.1 Removing or relocating materials, furniture, storage containers, personal effects, debris materials or finishes; conducting exploratory probing or testing; *dismantling* or operating equipment or appliances; or disturbing personal items or property which obstructs access or visibility.

4.5.3.2 Entering or accessing any area of the premises deemed to pose a threat of *dangerous conditions* with respect to the *field observer* or to perform any procedure that may damage or impair the physical integrity of the *property*, any *system*, or *component*.

4.5.3.3 Providing an *environmental site assessment*, *property condition assessment*, or any element of an *environmental site assessment* or *property condition assessment*.

4.5.4 *Hidden Areas*—In some cases, *observable mold* and *physical deficiencies conducive to mold* may not be *obvious*. *Mold growth* may occur on hidden surfaces such as: within wall cavities, within crawlspaces; on the back side of drywall, wallpaper or paneling; on the tops of ceiling tiles or the underside of carpets and pads, and so forth. Possible locations of hidden *mold* can include pipe chases and utility tunnels, porous thermal or acoustic liners inside ductwork, or roof insulation materials above roof decks of ceilings. If the *user* suspects the presence of hidden *mold* (for example, due to musty smells), the *user* should communicate this fact to the *consultant*. Investigation of hidden *mold* problems may be difficult and is beyond the scope of work described in this *guide*. If the *user* suspects hidden *mold*, work beyond that described in this *guide* may be appropriate. This *guide* does not include a *physical search* for hidden *mold*.

4.5.5 *Representative Observations*—The purpose of conducting representative *observations* is to convey to the *user* the expected magnitude of commonly encountered or anticipated conditions. *Representative observation* quantities are to be provided in the agreement between *user* and *consultant*; however, if in the *consultant's* opinion such *representative observations* as presented in the agreement are unwarranted as a result of homogeneity of the asset or other reasons deemed appropriate by the *consultant*, a sufficient number of units, areas, systems, buildings, and so forth may be *observed* so as to achieve a reasonable confidence as to the representative present conditions of such repetitive or similar areas, systems, buildings, and so forth.

4.5.5.1 *User-Requested Representative Observations*—A *user* may define the *representative observations* required for a given *property*.

4.5.5.2 *Extrapolation of Findings*—*Consultant* may reasonably extrapolate *representative observations* and findings to all typical areas or *systems* of the *property* for the purposes of describing such conditions within the *report*.

4.5.6 *Level of Inquiry Is Variable*—Not every *commercial real estate* transaction will warrant the same level of assessment. Consistent with good commercial or customary practice, the appropriate level of survey will be guided by the type of property subject to assessment, the expertise and risk tolerance of the *user*, geographic and other environmentally related issues such as local climate, drainage and proximity to surface water, and other information that may be developed during the course of the *BSP*.

4.5.7 *Comparison With Subsequent Inquiry*—It should not be concluded or assumed that an inquiry was not an *appropriate inquiry* merely because the inquiry did not identify *observable mold* and *physical deficiencies conducive to mold* in connection with a *commercial building*. *BSPs* must be evaluated based on the reasonableness of judgments made at the time and under the circumstances in which they were made. Subsequent *BSPs* should not be considered valid standards to judge the appropriateness of any prior assessment based upon hindsight, changed conditions, new information, use of developing technology or analytical techniques, or other factors.

4.6 *Rules of Engagement*—The contractual and legal obligations between a *consultant* and a *user* (and other parties, if any) are outside the scope of this *guide*. No specific legal relationship between the *consultant* and the *user* is necessary for the *user* to meet the requirements of this *guide*.

## 5. User Responsibilities

5.1 *Access*—*User* should arrange for the *field observer* to receive *timely access*, which is complete and safe to the *commercial real estate's* improvements (including roofs). In addition, access to the *commercial real estate's* staff and appropriate documents should be provided by *owner*, *owner's* representative, and/or made available by the *user*. If requested by the *consultant*, the *user* shall provide someone knowledgeable about the property to accompany the *consultant* during the *walk-through survey*. In no event should the *field observer* seek access to any particular portion of the *commercial real estate*, interview property management staff or tenants, or review documents, if the *owner*, *user*, or *occupant* objects to such access or attempts to restrict the *field observer* from conducting any portion of the *walk-through survey*, document review, *interviews*, or taking of photographs. Any conditions that significantly impede or restrict the *field observer's walk-through survey* or research, or the failure of the *owner* or *occupant* to provide *timely access*, information, or requested documentation should be timely communicated by the *consultant* to the *user*. If such conditions are not remedied, the *consultant* is obligated to state within the *report* all such material impediments that interfered with the conducting of the *BSP* in accordance with this *guide*.

5.2 *User Disclosure*—The *user* should disclose in a timely manner all appropriate information in the *user's* possession that may assist the *field observer* in identifying key issues such as construction details, renovation details, building damage details, or prior *mold*-related survey or remediation services conducted at the *commercial building* and other information useful in completing the *BSP*.

## 6. Survey for Readily Observable Mold and Conditions Conducive to Mold

6.1 *Objective*—The purpose of the *BSP* is to *observe*, to the extent feasible pursuant to the processes prescribed herein, on *observable mold* and *physical deficiencies conducive to mold* at the *subject property* and prepare a *report* of the findings.

6.2 *BSP Sections*—The *BSP* should have four sections:

6.2.1 Documentation Review; refer to Section 8.

6.2.2 Interview; refer to Section 9.

6.2.3 Walk-Through Survey; refer to Section 10.

6.2.4 Report; refer to Section 11.

### 6.3 Coordination of Sections:

6.3.1 *Sections Used in Concert*—The Documentation Review, Interviews, and Walk-Through Survey sections of this guide are interrelated in that information obtained from one component may either indicate the need for more information from another, or impact the consultant's findings, opinions, or recommendations, or combination thereof.

6.3.2 *Information Provided By Others*—The consultant should note in the report the source of information used by the consultant that were material in identifying any observable mold and physical deficiencies conducive to mold encumbering the property that was not readily observed by the consultant or that supplemented the consultant's observations.

6.3.3 *No Sampling*—This guide does not include any air, surface or bulk sampling and testing for the presence of mold.

### 6.4 Consultant's Duties:

6.4.1 *Who May Conduct Portions of the Survey*—The inquiries, interviews, walk-through survey, interpretation of the information upon which the Report is based, and the writing of the report are all tasks and portions of the BSP that may be performed by the consultant, field observer, members of the consultant's staff, or third party contractors engaged by the consultant, provided such persons meet applicable licensure requirements, if any, in the jurisdiction where the services are performed.

6.4.2 *Responsibility for Lack of Information*—The consultant is not responsible for providing or obtaining information should the source contacted fail to respond, to respond only in part, or fails to respond in a timely fashion.

6.4.3 *Representative Observations*—The field observer is not expected to survey every component of every building system during a walk-through survey. For example, it is not the intent to survey every apartment unit, mechanical area, toilet room facilities, every square foot of tenant area, and so forth. Only representative observations of such areas are to be surveyed. The concept of representative observations extends to all conditions, areas, equipment, building components, building systems, and so forth to the extent that they are similar and representative of one another.

## 7. The Consultant

7.1 *Qualifications of Consultant*—This guide recognizes that the competency of the consultant is highly dependent on many factors that may include professional education, training, experience, certification, or professional licensing/registration of both the consultant's field observer and the BSP reviewer. It is the intent of this guide to identify factors that should be considered by the user when retaining a consultant to conduct a BSP and by the consultant in selecting the appropriate field observer and BSP reviewer. No standard can be designed to eliminate the role of professional judgment, competence, and the value and need for experience during the walk-through survey and to conduct the BSP. Consequently, the qualifications of the field observer and the BSP reviewer are critical to the performance of the BSP and the resulting report. This guide further recognizes the consultant has the responsibility to select, engage, or employ the field observer and the BSP reviewer.

7.2 *Independence of Consultant*—This guide recognizes that the consultant is normally a person or entity, acting as an independent contractor, who has been engaged by the user to conduct a BSP. In the event the consultant, the field observer, the BSP reviewer, or members of the consultant's staff are employees of, or subsidiary of, the user, such affiliation or relationship should be disclosed in the Executive Summary of the report.

7.3 *Qualifications of the Field Observer*—Refer to X1.1.1, for nonmandatory guidance on the qualifications of the field observer.

7.4 *Qualifications of the BSP Reviewer*—Refer to X1.1.2, for nonmandatory guidance on the qualifications of the BSP Reviewer.

7.5 *The Field Observer and BSP Reviewer may be a Single Individual*—The BSP reviewer may also act as the field observer and conduct the walk-through survey. In such an event, the BSP reviewer should identify such dual responsibilities and sign the report indicating that he or she has performed both functions.

7.6 *Not a Professional Architecture or Engineering Service*—It is not the intent of this guide that by conducting the walk-through survey or reviewing the report that the consultant, the field observer, or the BSP reviewer is practicing architecture, engineering, industrial hygiene or safety. Furthermore, it is not the intent of this guide that either the BSP reviewer or the field observer, if they are an architect, engineer or industrial hygienist, must either sign or seal the report as an instrument of professional service or identify their signatures as being that of an architect or engineer.

## 8. Document and Record Review

8.1 *Objective*—The objective of the document and record review is to augment the walk-through survey and to assist the consultant's understanding of the subject property and identifying of observable mold and physical deficiencies conducive to mold. Records or documents, if readily available, should be reviewed to specifically identify, or assist in the identification of, observable mold and physical deficiencies conducive to mold.

8.2 *Reliance*—The consultant is not required to independently verify the information provided and may rely on information absent actual knowledge to the contrary and to the extent that the information appears reasonable to the consultant.

8.3 *Accuracy and Completeness*—Accuracy and completeness of information varies among information sources. The consultant is not obligated to identify mistakes or insufficiencies in the information provided. However, the consultant should make reasonable efforts to compensate for mistakes or insufficiencies of information reviewed that are obvious in light of other information obtained in the process of conducting the BSP or otherwise known to the consultant.

8.4 *Pre-survey Questionnaire*—Consultant may provide owner or owner's representative, or both, with a pre-survey questionnaire (the "questionnaire"). Such questionnaire, complete with the owner's or owner's representative's responses, should be included as an exhibit within the report unless directed otherwise by user.



**8.5 Owner/User Provided Documentation and Information**—If readily available, the *consultant* should review the following documents and information that may be in the possession and/or provided by the *owner*, *owner's* representative, or *user*, as appropriate. Such information could also aid the *consultant's* knowledge of the *commercial real estate's* physical improvements, extent and type of use, and/or assist in identifying material discrepancies between reported information and *observed* conditions. The *consultant's* review of documents submitted does not require commenting on the accuracy of such documents or their preparation, methodology, or protocol. However, if the *consultant* discovers a significant discrepancy, it should be disclosed within the *report*. Such materials are to be handled in a manner that protects the *commercial building's* privacy and confidentiality.

8.5.1 Moisture Intrusion Survey, Mold or Microbial Growth Survey, either current or previously prepared.

8.5.2 IAQ Reports.

8.5.3 Violations, orders, tenant or occupant complaints, or other documents or communication from any *local government agencies* regarding mold, fungi, IAQ, water, sewer, septic, wastewater, or other moisture related issue.

8.5.4 Previously prepared *environmental site assessment reports*.

8.5.5 Previously prepared *property condition reports* or studies pertaining to any aspect of the *subject property's* physical condition.

8.5.6 Records indicating building occupancy percentage.

8.5.7 Records indicating building turnover percentage.

8.5.8 Building rent roll.

8.5.9 Leasing literature, listing for sale, marketing/promotional literature such as photographs, descriptive information, reduced floor plans, and so forth.

8.5.10 Drawings and specifications (as-built or construction).

## 9. Interviews with Owners and Occupants

9.1 *Persons to be Interviewed*—Prior to the *site visit*, the *consultant* should ask the *owner*, *user*, or *key site manager* to identify a person or persons knowledgeable of the physical characteristics, maintenance, and repair of the *commercial building*. If a property manager or agent of the *owner* is identified, the *consultant* should contact such individual so as to inquire about the *subject property's* historical repairs and replacements, history of tenant complaints, level of preventive maintenance exercised, pending repairs and improvements, frequency of repairs and replacements, existence of ongoing or pending litigation related to *subject property's* physical condition, the presence of *observable mold*, or *physical deficiencies conducive to mold*. In connection with the *consultant's* research or *walk-through survey*, *consultant* may also question others who are knowledgeable of the *commercial real estate's* physical condition and operation. It is within the discretion of the *consultant* to decide which questions to ask before, during, or after the *site visit*.

9.2 *Reliance*—*Consultant* may rely on the information obtained as a result of the *interviews*, provided that in the *consultant's* opinion such information appears to be reasonable.

9.3 *Method*—Questions to be asked pursuant to this section are at the discretion of the *consultant* and may be asked in person, by telephone, or in writing.

9.4 *Incomplete Answers*—While the *consultant* should make inquiries in accordance with this section, the persons to whom the questions are addressed may have no obligation to cooperate. Should the *owner*, *key site manager* or the property manager, building/facility engineer, or maintenance supervisor not be available for an *interview*, whether by intent or inconvenience, or not respond in full or in part to questions posed by the *consultant*, *consultant* should disclose such within the *report*. Furthermore, should any party not grant such authorization to interview, restrict such authorization, or should the person to whom the questions are addressed not be knowledgeable about the *subject property* this should be disclosed within the *report*.

9.5 *Questions*—See Appendix X2.

## 10. Walk-Through Survey

10.1 *Objective*—The objective of the *walk-through survey* is to obtain information indicating the likelihood of identifying current *observable mold* and *physical deficiencies conducive to mold* observed to be occurring within a *commercial building*.

10.2 *Photographs*—*Consultant* should document representative conditions and *observable mold* and *physical deficiencies conducive* with photographs and use reasonable efforts to document typical conditions present including *observable mold* and *physical deficiencies conducive to mold*, if any.

10.3 *Observation*—During the *walk-through survey*, the *consultant* shall *visually and/or physically observe* the *property* and the *commercial building(s)* located on the *property* to the extent not obstructed by bodies of water, adjacent buildings, or other obstacles.

10.4 *Specific Examples of Areas to be Observed*—The following listing of areas and/or locations at a *property* to be *observed*, if present, are provided as examples. If these areas are present on a *property* they should be *observed* for the presence of *observable mold* and *physical deficiencies conducive to mold*.

10.4.1 *Site*—The periphery of the developed area of the *commercial building* should be *visually and/or physically observed*.

10.4.1.1 *Topography*—*Observe* the general topography and any unusual or problematic features or conditions that would be possibly problematic with respect to moisture or water infiltration into the *commercial building's* sublevel(s).

10.4.1.2 *Storm Water Drainage*—*Observe* the storm water collection and drainage system and note the presence of on-site surface waters, and retention or detention basins. If swales or drainage areas are present adjacent to or near building exterior walls, they should be *observed* for standing water or other indications that they could be sources of moisture that could enter the building.

10.4.1.3 *Marshes, Bogs and Open Water*—If marshes, bogs, or areas of open water, or combination thereof, are present adjacent to or near the building's exterior walls, they should be *observed* for standing water or other indications that they could be sources of moisture that could enter the building.



10.4.2 *Exterior*—The periphery of all structures on the property shall be *visually and/or physically observed*.

10.4.2.1 *Exterior Building Walls*—Should be *visually and/or physically observed*.

10.4.2.2 *Cooling Towers*—Should be *visually and/or physically observed*.

10.4.2.3 *Roofs*—Roofs should be *observed* for obvious signs of leaking such as split seams and excessive areas of patching (frequently identified on flat gravel surfaced roofs by the gravel being moved to allow repair and not being replaced over the repaired areas).

10.4.2.4 *Air Intakes*—HVAC air intakes should be *observed* for signs of *mold* or for the presence of standing water in the vicinity of them.

10.4.2.5 *Air Handling Units*—HVAC air handling units should be *visually and/or physically observed*.

10.4.3 *Interior*—The interior of structures on the property, *readily accessible* common areas expected to be used by *occupants* or the public (such as lobbies, hallways, utility rooms, recreation areas, and so forth), maintenance and repair areas, including boiler rooms, and a representative sample of *occupant* spaces, should be *visually and/or physically observed*. Additionally, *readily accessible* attics, basements, cellars, and other such areas of the *commercial building* not usually occupied should be viewed. It is not necessary to comply with this *guide* by surveying under floors, above ceilings, behind walls, or within confined areas such as chases, ducts, or crawl spaces as these areas are not generally considered *readily accessible* and would be deemed areas warranting an *extraordinary physical search*.

10.4.3.1 *Interior Areas Near Visible Exterior Mold*—If exterior wall *mold* is *observed*, the interior walls adjacent to such *visible exterior mold* should be *observed*. Interior wall surfaces that are near locations where the exterior of the building had identified *observable mold* should be *observed*. If reasonably possible, the interior wall cavities of exterior walls may be *observed*. While this *guide* does not require opening such wall cavities, if they can be *observed* from above hung ceilings or through existing wall penetrations, they may be so *observed*.

10.4.3.2 *Interior Areas Near Exterior Swales and/or Drainage Systems*—If exterior swales or drainage systems are *observed*, the interior walls adjacent to such swales and/or drainage systems should be *observed*. Interior wall surfaces that are near locations where the exterior of the building is near swales and/or drainage systems should be *observed*. If *readily accessible*, the interior wall cavities of exterior walls may be *observed*. While this *guide* does not require opening such wall cavities, if they can be *observed* from above hung ceilings or through existing wall penetrations they may be so *observed*.

10.4.3.3 *Interior Areas Near Below Grade Exterior Walls or Those at Lower Levels Than the Surrounding Land*—Interior wall surfaces that are near locations where the exterior of the building is below grade or at lower levels than surrounding land should be *observed*. If reasonably possible, the interior wall cavities of exterior walls may be *observed*. While this *guide* does not require opening such wall cavities, if they can

be *observed* from above hung ceilings or through existing wall penetrations they may be so *observed*.

10.4.3.4 *Toilet Rooms and Bathrooms*—Toilet rooms and bathroom should be *observed* for operational exhaust fans and leaking plumbing fixtures. Exhaust fans should be *observed*, and if accessible, operated to ensure that they are drawing air from the space. The areas around and near the fans should be *observed* for *mold*.

10.4.3.5 *Kitchens*—Kitchens should be *observed*. Enclosed cabinets and areas beneath sinks and around grease traps should be *observed*. Exhaust fans should be *observed*, and if accessible, operated to ensure that they are drawing air from the space. The areas around and near the fans should be *observed* for *mold*.

10.4.3.6 *Humidifiers*—Humidifiers, especially reservoir-type central and portable units, should be *observed*.

10.4.3.7 *Dehumidifiers*—Dehumidifiers should be noted as to their location within the building, cause for warranting such an appliance, and method of discharging the collected water.

10.4.3.8 *Condensation/Drip Pans*—To the extent they are *readily accessible*, condensation/drip pans under coils of air conditions or other HVAC equipment should be *observed* for standing water and *microbial growth*.

10.4.3.9 *Crawl Spaces*—Entering of crawl or confined space areas are considered out of scope. However, the *field observer* should observe conditions to the extent *easily visible* from the point of access to the crawl or confined space areas. The *field observer* is to note evidence of previous substructure flooding or water penetration if *easily visible* or if such information is provided.

10.4.3.10 *Basements and Cellars*—Basements and cellars should be *observed* along the building's exterior perimeter walls for evidence of *visible mold* or significant water intrusion, or both. Any *sumps*, perimeter channels, or other areas of open water in the basement and/or cellar should be *observed*.

10.4.3.11 *Plumbing*—Exposed plumbing in basements, cellars, and other *readily observable* locations should be *observed* for water leaks or condensation.

10.4.3.12 *Fire Suppression Systems*—Exposed fire suppression system components in basements, cellars, and other *readily observable* locations should be *observed* for water leaks or condensation.

10.4.3.13 *Windows and Sliding Doors*—Frames and perimeters should be *observed* for *observable mold* and *physical deficiencies conducive to mold*, such as condensation, as well as areas where leaks can occur.

10.4.3.14 *Attic Spaces*—Attic spaces, especially around roof penetrations where flashing would be expected, should be *observed* if *readily accessible*. If possible, on buildings with pitched roofs, areas near the building's eaves should be *observed*. Attic insulation should be *observed* for signs of *observable mold* and *physical deficiencies conducive to mold*.

10.4.3.15 *Interior Areas With Open Water or High Humidity*—Area of buildings with spas, whirlpools, swimming pools, decorative fountains, saunas, steam baths and other such areas that have open water or high humidity, or both, should be *observed*.

10.4.3.16 *Reservoir Misters*—Reservoir misters in super-market produce sections should be *observed*.

10.4.3.17 *Dryer Vents*—Dryer vents should be *observed* to ensure that they are connected and directly discharge outside buildings.

10.4.3.18 *Gas-fired and Oil-fired Heaters*—Gas-fired and

evaluating information collected during the course of the survey related to *observable mold* and *physical deficiencies conducive to mold* on the *property* should be discussed. *Observable mold* and *physical deficiencies conducive to mold* should be listed in the conclusions section of the *report*.

11.11 *Conclusions*—The *report* should summarize all indi-